UDC 621:762

USSR

MUSIKHIN, A. M., VINOGRADOV, G. A., OGNEV, R. K., KOLOMOYETS, G. G., and TER-POGOSYAN, E. D.

"High-Speed Rolling of Iron and Titanium Powders"

Moscow, Metallurgiya i Khimiya Titana (Institut Titana), Metallurgiya Publishing House, Vol 6, 1970, pp 100-105

Translation: Results are given for research on conditions of rolling with forced feeding of metal powders. An empirical dependency is established between the thickness of the strip and the productivity of the mill as a function of the value of the roll solution and pressure of the powder support. It is demonstrated that the use of forced powder feeding makes it possible to increase the rolling speed to 3,2 meters per second and more, and to regulate the density of the strip within a wide range. Four illustrations, one table, and two bibliographic entries.

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UDC 621.762

USSR

OGNEV, R. K., KOLOMOYETS, G. G., TER-POGOSYAN, E. D., ESTRAKH, L. M., ANOKHIN, V. M., and PEREVYAZKO, A. I.

"The Effect of Technological Parameters on the Qualities of Construction Articles Obtained by the Method of Compacting Titanium Powders"

Moscow, Metallurgiya i Khimiya Titana (Institut Titana), Metallurgiya Publishing House, Vol 6, 1970, pp 94-97

Translation: The effect of the features of initial powders and the technological parameters in manufacturing construction articles on their mechanical properties is considered. When identical compacting pressures, the density of articles made of electrolytic powder is greater by 4-7% than for similar articles made of hydride powder, and this gap decreases during the process of heat treatment. Increasing the sintering temperature of the powder metallurgy titanium leads to an increase in tensile strength and elongation per unit length. Where heat treatment is at a temperature of 1,300°C, the tensile strength is equal to 55-65 gigacalories/mm^2 and the elongation per unit length reaches 11%. Two illustrations, one table, and three bibliographic entries.

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USSR UDC 621.762

OGNEV, R. K., TER-POGOSYAN, E. D., KOLOMOYETS, G. G. PEREVYAZKO, A. I., ESTRAKH, L. M., and ANOKHIN, V. M.

"Powder Metallurgy Filters Made of Titanium Scraps"

Moscow, Metallurgiya i Khimiya Titana (Institut Titana), Metallurgiya Publishing House, Vol 6, 1970, pp 97-99

Translation: The effect of the technological parameters of manufacture and properties of the initial titanium powder on filter productivity are studied. It is discovered that it is expedient to compact filters at pressures up to two tons/cm^2 and to sinter them at temperatures not exceeding 1,100°C. Filter productivity is determined during filtration of liquids, and the dependence of productivity on a drop in pressure to one atmosphere and on the size and shape of grains of the initial powder is established. It is determined that the water carrying capacity of filters manufactured from hydride powder is 3-5 times greater than similar ones made of electrolytic powder. Two illustrations and two bibliographic entries.

1/1

USSR

UDC 621.762

FEDORCHENKO, I. M., OGNEV, R. K., KOLOMOYETS, G. G., ANOKHIN, V. M., REYTSES, V. B., KAZANTSEVA, N. A., and RUTBERG, V. P.

"The Effect of Aluminum and Molybdenum on the Properties of Sintered Titanium at Room and Elevated Temperatures"

Moscow, Metallurgiya i Khimiya Titana (Institut Titana), Metallurgiya Publishing House, Vol 6, 1970, pp 111-116

Translation: Results are given from research on the mechanical properties of the alloys titanium-aluminum, titanium-molybdenum, and triple alloys titanium-aluminum-molybdenum at room temperature and at temperatures raised to 300°C. The alloys were obtained by mechanical blending of powders. After compacting and sintering one time, the alloys studied had a tensile strength up to 80 gigacalories/mm^2 and elongation per unit length of 5-16%. Alloying aluminum and molybdenum increases the heat resistance of sintered titanium alloys; the short-term strength at 300°C increases by more than two times. The stress-rupture strength increases significantly during alloying. Four illustrations, one table, and four bibliographic entries.

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USSR

UDC 621.762:669.462.295

MUSIKHIN, A. M., VINOGRADOV, G. A., OGNEV, R. K., KOLOMOYETS, G. G., and TER-POGOSYAN, E. D.

"High-Speed Rolling of Iron and Titanium Powders"

Sb. tr. Vses. n.-i. i proyektn. in-t titana [Collected Works of All-Union Scientific-Research and Planning Institute for Titanium], 6, 1970, pp. 100-105, (Translated from Referativnyy Zhurnal-Metallurgiya, No. 1, 1971, Abstract No.1 G474 by the authors).

Translation: The use of forced powder feed allows the rolling speed to be increased to 3.2 m/sec and higher, i.e., to speeds higher than those ordinarily used by several orders of magnitude. The density of the raw rolled product with forced feed can be adjusted over broad limits by changing the powder feed force. Increasing the height of the powder column in the hopper over the mill with gravity powder feed cannot be used to replace forced powder feed, since it does not allow an increase in rolling speed and has no influence on the thickness and density of the raw rolled product. 4 figures.

1/1

USSR UDC 620.193.01

ARENSBURGER, D. S., PUGIN, V. S., BRYNZA, A. P., KOLOMOYETS, G. G., and PATRUSHEVA, A. G., Dnepropetrovsk State University, All-Union Scientific Research and Design Institute for Titanium, Zaporozhe, Institute of Problems of Material Science, Academy of Sciences UkrSSR

"The Corrosion Behavior of Titanium Cermets in Mineral Acid Solutions"

Poroshkovaya Metallurgiya, No 4(100), Apr 71, pp 74-80

Abstract: Porous cermet materials having developed surfaces are subject to corrosion both externally as well as internally, which causes a deterioration in the physical-chenical properties. Study was made of the corrosion resistance of titanium cermets in hydrochloric and sulfuric acids solutions at temperatures of 20-80°C. The samples were prepared from titanium powder with a particle size range of -0.25 + 0.1 mm and -0.18 + 0 mm. The titanium powders were prepared by hydrogenation with subsequent degassing of the melt and by elecgrolytic refining of the waste titanium sponge. One set of samples was pressed under a pressure of 1.5 T/cm^2 and sintered at 1150° in pure argon for two hours. The other samples were sintered in vacuum at 1100°C for one hour. The specific surfaces of the 20% and 40% porous samples were determined and found to be 0.17 and 0.455 m^2/g, respectively.

USSR

ARENSBURGER, D. S., et al., Poroshkovaya Metallurgiya, No 4(100), 1971, pp 74-80

Corrosion tests with sulfuric acid (5-91%) were carried out by incubating the samples at 40-80°C for 4-5 hours and at 20-30°C for 12-14 hours. Velocity of corrosion was found to be independent of time. A curve of the relation of the velocity of corrosion to acid concentration shows two maxima which correspond to 20 and 78% sulfuric acid; a minimum occurs at 50-60% sulfuric acid while with concentrations above 78%, the velocity decreases significantly. Titanium cermets have little stability in sulfuric acid and the use of nitric acid as an inhibitor gave almost complete protection.

Titanium cermets were stable at 20°C to 3% HCl; at increased concentrations, the corrosion increased rapidly. Comparison of results with both hydrochloric and sulfuric acids showed that the velocity of corrosion is inhibited by the presence of the Cl^- ion and activated by the $SO_4^=$ within a fixed time. At increased acidities, this is reversed and can be explained by the fact that the titanium sulfate which is deposited on the surface as a corrosion product is insoluble and prevents further degeneration.

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USSR UDC 620.193.01

ARENSBURGER, D. S., PUGIN, V. S., BRYNZA, A. P., KOLONOYETS, G. G., and PATRUSHEVA, A. G., Dnepropetrovsk State University, All-Union Scientific Research and Design Institute for Titanium, Zaporozhe, Institute of Problems of Material Science, Academy of Sciences UkrSSR

"The Corrosion Behavior of Titanium Cermets in Mineral Acid Solutions"

Poroshkovaya Metallurgiya, No 4(100), Apr 71, pp 74-80

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USSR

ARENSBURGER, D. S., et al., Poroshkovaya Metallurgiya, No 4(100), 1971, pp 74-80

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Titanium cermets were stable at 20°C to 3% HCl; at increased concentrations, the corrosion increased rapidly. Comparison of results with both hydrochloric and sulfuric acids showed that the velocity of corrosion is inhibited by the presence of the Cl^- ion and activated by the $SO_4^=$ within a fixed time. At increased acidities, this is reversed and can be explained by the fact that the titanium sulfate which is deposited on the surface as a corrosion product is insoluble and prevents further degeneration.

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USSR

UDC 621.762:669-496.295

OGNEV, R. K., TER-POGOSYAN, E. D., KOLOMOYETS, G. G., PEREVYAZKO, A. I., ESTRAKH, L. M. and ANOKHIN, V. M.

"Metal Ceramic Filters of Titanium Wastes"

Sb. tr. Vses. n.-i. i proyektn. in-t titana [Collected works of All-Union Scientific-Research and Planning Institute for Titanium], 6, 1970, pp. 97-99, (Translated from Referativnyy Zhurnal-Metallurgiya, No. 1, 1971, Abstract No.1 G475 by the authors).

Translation: The influence of technological parameters of the manufacture and properties of initial Ti powder on productivity of filters is studied. Pressing of filters should be performed at pressures up to 2 t/cm^2, sintering at temperatures of less than 1100°. The productivity of filters is determined for filtration of fluids. The dependence of productivity on pressure drop of up to 1 atmosphere and on size and shape of initial powder particles is determined. The throughput capacity for water of filters made of hydride powder is three times higher than the throughput capacity for filters made of electrolytic powder. 2 figures.

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USSR

UDC 621.762.01:669.295

OGNEV, R. K., KOLOMOYETS, G. G., TER-POGOSYAN, E. D., ESTRAKH, L. M., ANOKHIN, V. M., and PEREVYAZKO, A. I.

"Influence of Technological Parameters on Properties of Structural Products Produced by Pressing Titanium Powders"

Sb. tr. Vses. n.-i. i proyektn. in-t titana [Collected Works of All-Union Scientific-Research and Planning Institute for Titanium], 6, 1970, pp. 94-97, (Translated from Referativnyy Zhurnal-Metallurgiya, No. 1, 1971, Abstract No. 1 G453 by the authors).

Translation: The authors studied the influence of the properties of the initial powders and technological parameters in the manufacture of structural products on their mechanical properties. With identical pressing pressures, the density of products of electrolytic powders is higher than that of similar products of hydride powders by 4-7%, although this difference is reduced during heat treatment. Increasing the sintering temperature of metal ceramic Ti causes an increase in σ_b and δ. With a heat treatment temperature of 1300°, σ_b is 55-65 kg/mm^2, δ reaches 11%. 2 figures; 1 table.

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UDC: 621.362.2

USSR

MAKAROV, V. S., KOLOMOYETS, N. V., CHERKASSKIY, A. Kh.

"A Thermoelectromagnetic Pump"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 11, Apr 72, Author's Certificate No 333646, Division H, filed 25 Nov 70, published 21 Mar 72, p 213

Translation: This Author's Certificate introduces a thermoelectromagnetic pump which contains P and N semiconductors, hot and cold commutation buses, a channel with liquid metal coolant, a cooling system, and a magnetic system with permanent magnets. As a distinguishing feature of the patent, the length of the working gap of the magnetic system is reduced and the efficiency of the pump is increased by making the cold commutation bus in the form of a polepiece of the magnetic system with cooling channels inside.

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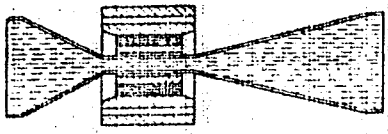
USSR

MAKAROV, V. S. et al., USSR Author's Certificate No 333646



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USSR UDC: 681.3:16

TOKHODZILO, P. V., KOLOMOYSKAYA, I. N., BEREZINETS, L. P.

"Cybernetics and Computer Equipment in the Ukraine. Bibliographic Guide"

Kibernetika I Vychislitel'naya Tekhnika Na Ukraine. Bibliogr. Ukazatel' [English version above], Kiev, Nauk. Dumka Press, 1970 (translated from Referativnyy Zhurnal Avtomatika, Telemekhanika I Vychislitel'naya Teknika, No 3, 1971, Abstract No 3 B24 K).

Translation: The index is published in six parts: part 1, theoretical cybernetics and computer methods, 261 pp; part 2, engineering cybernetics, 220 pp; part 3, mathematical modeling and specialized computer equipment, 178 pp; part 4, computer equipment, 179 pp; part 5, economic cybernetics and systems engineering, 201 pages; part 6, biological and medical cybernetics, botany, 114 pp.

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K

USSR

KOLOMOYTSEV, F. I., BELOV, D. G., KONDRASHOV, A. P., and MAL'TSEV, Ye. K.

"Effect of Electron Bombardment on Electroluminescence"

Minsk, Zhurnal Prikladnoy Spektroskopii, Vol. 12, No. 1, Jan 1970, pp 145-148

Abstract: By considering the excitation of electrically luminescent materials as the product of separate as well as combined actions of charged particles and electric fields, the authors undertook an investigation into the spectrum of the glow from an EL-510 target. It is asserted that there is no data in the literature for this type of research. The electron beam used in the experiments was obtained by a proton-electron accelerator; the remainder of the equipment and its interrelations are shown in a schematic diagram. Source of the electron beam was a tungsten filament, heated to incandescence, in a Pierce lens. The beam was controlled by two Faraday cylinders. Experiments were conducted at room temperature, and the pressure in the operating chamber was $5 \cdot 10^{-6}$ mm Hg. Luminescent screens in the form of

USSR

KOLOMOYTSEV, F. I., et al, Zhurnal Prikladnoy Spektroskopii, Vol. 12, No. 1, Jan 1970, pp 145-148

electroluminescent capacitors were the targets; the luminescent substance, EL-510, was deposited on transparent, electrically conducting glass 40-50 microns thick. The results of the experiments are given in the form of curves: with separate excitation of the screen by the electron beam and a sinusoidal voltage of about 80 volts at a frequency of 5 kHz, the maximum of the resultant spectrum did not shift. On the other hand, the intensity of the EL-510 glow under electron bombardment was much less than with the sinusoidal voltage. A possible explanation for this phenomenon is offered.

Acc. Nr: AP0050718 Abstracting Service: CHEMICAL ABST. 5170 Ref. Code: 4R0368

94975h Effect of electron bombardment on the glow of an electroluminophor. Kolomoitsev, F. I.; Belov, D. G.; Kondrashov, A. P.; Mal'tsev, E. K. (USSR). *Zh. Prikl. Spektrosk.* 1970, 12(1), 145-8 (Russ). In the excitation of luminophor EL-510 m by current of electrons (50 μA, ~25 keV) or by sinusoidal voltage (~80 V, frequency 5 kHz), positions of the max. in the spectrum were virtually unchanged. In the case of current of electrons, the light intensity was significantly lower than in the case of excitation by sinusoidal voltage. Reflected and the surface layer delayed electrons (~50%) did not participate in the excitation of the electroluminophor. During the joint action of penetrating irradn. and elec. field, light intensity was lower than in the excitation by elec. field only. Under the conditions of simultaneous action of sinusoidal voltage and current of charged particles, in an "impoverishment" barrier of the Schottky type, an addnl. amt. of charge carriers was generated as δ-electrons. The appearance of secondary electrons caused a decrease of barrier resistance and the intensity of local elec. field decreased, which led to a decrease of electroluminescence intensity. M. Tichy

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EB 21

REEL/FRAME
19810716

USSR

UDC 620.172.25.226

KOLOMYTSEV, P. T., LEBEDEV, P. P., Moscow Military Aviation Engineering Academy

"Cyclic and Long-Term Strength of KhN77TYuR and KhN70VMTYu Alloys With a Protective Coating"

Kiev, Problemy Prochnosti, No 9, Sep 72, pp 92-95

Abstract: The paper presents the results of an experimental study of the effect which a diffusion coating made by chrome-aluminizing in a vacuum has on the permanent strength and endurance of two heat-resistant nickel alloys and the operational endurance of turbine blades made from KhN77TYuR alloy. The results of the experiments were stabistically analyzed. It is found that the durability of alloys in long-term and cyclic strength tests can be extended by using a ductile heat-resistant coating of optimum thickness.

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Acc. Nr: AP0046223 Ref. Code: UR0646

PRIMARY SOURCE: Teoreticheskaya i Matematicheskaya Fizika, 1970, Vol 2, Nr 2, pp 210-227

THE REDUCTION OF THE IRREDUCIBLE UNITARY REPRESENTATIONS OF THE GROUP $SL(2C)$ RESTRICTED TO THE SUBGROUP $SU(1,1)$. THE ADDITIONAL SERIES

V. I. Kolomytsev

The reduction of irreducible unitary representations of additional series of the group $SL(2C)$ restricted to the subgroup $SU(1,1)$ is investigated. The matrix elements of the additional series representations of $SL(2C)$ are evaluated. The formula is obtained which relates the matrix elements of operators of representations of $SL(2C)$ and $SU(1,1)$ and the analytic continuation of this formula is made with the respect to the parameter σ of the additional series representations. The singularities of the integrand in the formula are the second order poles. As a consequence, the analytic continuation contains not only the matrix elements of operators of representations of $SU(1,1)$ (as was the case for the representations of the principal series), but also their derivatives with the respect to the parameter l, labeling the $SU(1,1)$ representations.

DI 21

REEL/FRAME
19781339

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USSR

UDC: 621.382.2

KURBATOV, L. N., SHAKHIDZHANOV, S. S., BYSTROVA, L. V., KRAPUKHIN, V. V., and KOLONENKOVA, S. I.

"Investigating Superluminescence of a GaAs Diode"

Leningrad, Fizika i tekhnika poluprovodnikov, Vol 4, No 11, 1970, pp 2025-2031

Abstract: To investigate possible means of increasing the power in the point glow of the GaAs diode junction, the authors used an injection diode operating in the nonlinear mode of a traveling wave amplifier. This diode, termed a superluminescence diode by the authors, has no external radiation sources; its illumination power is the result of amplification of its spontaneous, characteristic radiation. Details of the construction of the diode together with a diagram of its cross section are given. The diodes investigated by the authors were obtained by the diffusion of zinc in an n-type substrate alloyed with tellurium. Also discussed are the measurement techniques, which were conducted at the temperature of liquid nitrogen, the mapping of the near and far fields, the radiation polarization, the radiation power as a function of the injection current, and the radiation spectra. The authors express their gratitude to Ye. Susov, M. Zargar'yants, et al.

1/1

UDC 621.372.85(088.8)

USSR

MODEL', A. M., KOLONIKIN, N. B.

"Device for Equalizing the Group Time Delay of a Microwave Channel"

USSR Author's Certificate No 276185, Filed 3 Mar 69, Published 12 Oct 70 (from RZh-Radiotekhnika, No 4, Apr 71, Abstract No 4B187P)

Translation: The proposed device contains wave guide bridges and a resonance ring.

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USSR

UDC: 621.317.741

MODEL', A. M., KRUTIKOV, V. I., KOLONIKIN, N. B.

"A Device for Measuring Small Losses"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 26, 1970, Soviet Patent No 278796, Class 21, filed 24 Apr 69, p 47

Abstract: This Author's Certificate introduces a device for measuring small losses in waveguide elements. The device consists of an oscillator, a waveguide resonance ring with variable phase shifter, and a directional coupler. As a distinguishing feature of the patent, measurement precision is improved and the working frequency range is extended by making the directional coupler in the form of two opposed polarization selectors with a polarization rotator on a circular waveguide connected between them.

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USSR

MODEL', A. M., KOLONIKIN, N. B.

UDC 621.372.553

"A Device for Equalizing the Group Delay Time of a Microwave Channel"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 23, Author's Certificate No 276185, Filed 3 Mar 69, p 63

Abstract: This author's certificate introduces a device for equalizing the group delay time of a microwave channel. The unit contains waveguide bridges and a resonance ring. As a distinguishing feature of the patent, adjustment and tuning of the group delay time equalizer are simplified by forming the feedback circuit from a bridge device with two arms connected to the ring, while the two free arms are connected by a section of transmission line.

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USSR

KOLONIN, G. V. UDC 911.3.616.981.51(47+57)

"The Origin of Anthrax in Reindeer"

V. sb. 5-ya Mezhvuz zoogeogr. konferentsiya "Vliyanie antropogen. faktorov na formir. zoogeogr. kompleksov" Ch. 1 (Fifth Joint Higher Education Institution Zoogeographic Conference on the Effect of Anthropogenic Factors on the Formation of Zoogeographic Complexes. Part 1 -- collection of works), Kazan, 1970, pp 87-88 (from RZh-36, Meditsinskaya Geografiya, No 1, Jan 71, Abstract No 1.36.123 by L. Naletova)

Translation: Anthrax bacteria could only exist in reindeer herds since their domestication, when the herds were enlarged. Apparently anthrax was brought into the northern taiga areas of European Russia with the cattle of Russian settlers, no earlier than the 15th and 16th centuries. The disease then spread along the tundras until, by the 20th century, it reached the Yenisey.

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USSR

UDC 669.15-194:669.26

VINTAYKIN, Ye. Z., ZVIGINTSEV, N. V., KOLONTSOV, V. Yu., and MOGUTNOV, B. M., Central Scientific Research Institute of Ferrous Metallurgy imeni I. P. Bardin, Institute of Metal Studies and Physics of Metals, Ural Polytechnical Institute imeni S. M. Kirov

"Stratification in the Martensite of Kh13N10 and Kh13N8Yu Steels"

Sverdlovsk, Fizika Metallov i Metallovedeniye, Vol 30, No 6, Dec 70, pp 1245-1249

Abstract: Aging of martensite was investigated in Fe-Cr-Ni steels by measuring the electrical resistance, thermal emf, specific volume, hardness, and low-angle neutron scattering. The existence of stratification in the investigated steels was established. Low-temperature aging of the Fe-Cr-Ni martensite causes stratification of the solid solution. Nickel and aluminum intensify the stratification process, and strengthening of Kh13N8Yu maraging steel is due to stratification of the Fe-Cr-Ni matrix and the formation of intermetallic compounds.

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1/2 031 UNCLASSIFIED PROCESSING DATE--02OCT70

TITLE--DOUBLE BRAGG REFLECTION IN IRRADIATED LITHIUM FLUORIDE SINGLE CRYSTALS -U-

AUTHOR-(02)-TELEGINA, I.V., KOLONTSOVA, E.V.

COUNTRY OF INFO--USSR

SOURCE--KRISTALLOGRAFIYA 1970, 15(1), 195-6

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY, PHYSICS

TOPIC TAGS--LITHIUM FLUORIDE, SINGLE CRYSTAL, NEUTRON IRRADIATION, REFRACTIVE INDEX

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1989/0768 STEP NO--UR/0070/70/015/001/0195/0196

CIRC ACCESSION NO--AP0107310

UNCLASSIFIED

2/2 031 UNCLASSIFIED PROCESSING DATE--02OCT70

CIRC ACCESSION NO--AP0107310

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. LINES CAUSED BY DOUBLE BRAGG REFLECTION AND ORSO. ON LIF SINGLE CRYSTALS IRRADIATED WITH AN INTEGRAL FLUX OF 10 PRIME19 NEUTRONS-CM PRIME2 WERE NORMAL TO LINES CONNECTING THE TRACK OF THE PRIMARY RAY WITH THE CORRESPONDING BRAGG REFLECTIONS. THE FORMS OF THE INTENSITY DISTRIBUTIONS IN THE DOUBLE BRAGG REFLECTION LINES AND THE ACTUAL SMALL ANGLE SCATTERING ARE DIFFERENT. FOR THE DOUBLE BRAGG REFLECTION INTENSITY, SMOOTHNESS AND MONOTONICITY ALONG THE LENGTH AND WIDTH OF THE LINES WERE NOT PRESENT. AFTER POST IRRADN. HEATING (650DEGREES FOR 4 HR), DIFFERENCES IN INTENSITY DISTRIBUTION WERE NOT AS SHARP: VERTICAL LINES CORRESPOND TO 2 DIMENSIONAL DIFFRACTION ON DISLOCATION PILE UPS IN THE (111) PLANES, AND THE REST, TO DOUBLE BRAGG REFLECTION. THE DOUBLE BRAGG REFLECTION DISAPPEARS BY ROTATION OF THE CRYSTAL ABOUT AN ANGLE EQUAL TO THE GENERAL ANGLE OF DISORDERING OF FRAGMENTS PROVIDING THAT DOUBLE BRAGG REFLECTIONS FROM OTHER PLANES DO NOT COINCIDE ON A GIVEN LINE. BY INCREASING THE DISORDER, THE PROBABILITY OF DOUBLE BRAGG REFLECTION PHENOMENA INCREASES DUE TO THE INCREASE OF ANGULAR DISORDERING OF THE FRAGMENTS, AND THE EFFECT OF 2 DIMENSIONAL DIFFRACTION DECREASES.

UNCLASSIFIED

USSR

TEPLYAKOV, D. I., APARISI, R. R., KOLOS, YA. G., State Scientific Research Power Engineering Institute imeni G. M. Krzhizhanovskiy

UDC 621.472

"The Influence of Central Shading and Longitudinal Defocusing of a Receiver Upon the Power Characteristics of a Paraboloid Solar Energy Installation"

Tashkent, Geliotekhnika, No 5, 1970, pp 8-14

Abstract: Central shading of the concentrator of a solar energy installation by an opaque receiver is frequently accompanied by a shift of the ray-receiving surfaces of the receiver along the optical axis of the paraboloid, i.e., by longitudinal defocusing. The article deals with the influence of shading of the central part of the solar irradiation concentrator upon the distribution of the heat load of the receiver light-absorbing surfaces. 3 figures, 5 bibliographic entries.

1/1

USSR

UDC 535.37:621.375.8

BOL'SHOV, M. A., GUZEYEV, I. D., ZYBIN, A. V., KOLOSHNIKOV, V. G., MAYOROV, I. A., NEDLER, V. V., MANDEL'SHTAM, S. L., TIMOFEYEV, Ye. F., and FILIMINOV, L. N.

"Determining Small Na Concentrations by the Fluorescence Resonance Method Using Tunable, Pulsed Dye Lasers"

Minsk, Zhurnal Prikladnoy Spektroskopii, November 1973, pp 821-824

Abstract: The subject of this article involves the method of fluorescence resonance in the use of tunable radiation dye lasers for detecting small concentrations of elements. Experiments designed to demonstrate the possibilities of this method in the saturation mode of resonance transition with Na as the element to be detected are described. For the excitation of the Na vapor a rhodamine laser of the 6Zh type, pumped by the second harmonic radiation of a neodymium laser, was employed. The duration of the pulses was $2 \cdot 10^{-8}$ sec, their power was 10^5 W, the width of the fluorescence line was 1 Å, and the tunable range 5600-6200 Å, with an interval of 20-30 sec between scintillations. The ZMR-3 was used as receiver. A block diagram of the equipment is given, together with a curve for the amplitude of the
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USSR

(5)

BOL'SHOV, M. A., et al., Zhurnal Prikladnoy Spektroskopii, November 1973, pp 821-824

fluorescence signal varying with time. The authors find that using a laser with high scintillation repetition rates and increasing the light power increase the sensitivity of the element detection.

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1/2 023 UNCLASSIFIED PROCESSING DATE--23OCT70

TITLE--A DIFFERENTIATING FABRY PEROT INTERFEROMETER -U-

AUTHOR-(03)-KOLOSHNIKOV, V.G., LAPSHIN, V.I., RAGIMOV, F.YA.

COUNTRY OF INFO--USSR

SOURCE--PRIBORY I TEKHNIKA EKSPERIMENTA, JAN.-FEB. 1970, P. 179-182

DATE PUBLISHED--------70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--FABRY PEROT INTERFEROMETER, EMISSION SPECTRUM, FREQUENCY CHARACTERISTIC, DIFFERENTIATION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1988/1552 STEP NO--UR/0120/70/000/000/0179/0182

CIRC ACCESSION NO--AP0106298

UNCLASSIFIED

2/2 023 UNCLASSIFIED PROCESSING DATE--23OCT70
CIRC ACCESSION NO--AP0106298
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. DESCRIPTION OF THE DESIGN OF A SCANNING FABRY PEROT INTERFEROMETER WHICH MAKES IT POSSIBLE TO OBTAIN THE DERIVATIVES OF AN EMISSION SPECTRUM WITH RESPECT TO FREQUENCY. THE PRINCIPLE OF OPTICAL DIFFERENTIATION IS BRIEFLY OUTLINED, THE COMPONENTS OF A FABRY PEROT INTERFEROMETER DESIGNED FOR USE IN THE MILIMETER WAVE RANGE ARE ENUMERATED, AND THE RESULTS OF A CHECK OF THE OPERATION OF THIS INTERFEROMETER ARE CITED. FACILITY: AKADEMIA NAUK SSSR, FIZICHESKII INSTITUT, MOSCOW, USSR.

UNCLASSIFIED

USSR

UDC 536.532.089.6

OSTRONOV, M. G., SAMARIN, Yu. B. and KOLOSHINA, V. N.

"Measurement of Small Low-Temperature Differences"

Moscow, Izmerital'naya Tekhnika, No 6, 1972, p 48

Abstract: A manganin-constantan thermocouple has been produced for the measurement of small low-temperature differences. Results of calibration of the thermocouple within the temperature range from 273-73° K are presented in a table. It is shown that the electromotive force of the thermocouple is close to the emf of a copper-constantan thermocouple, and that the thermal conductivity of the manganin-constantan thermocouple is 1 or 2 orders of magnitude lower than that of a copper-constantan thermocouple. The manganin-constantan thermocouple may be recommended for the measurement of small low-temperature differences in adiabatic microcalorimeters. 1 table. 4 references.

1/1

USSR

UDC 629.78.018.1

ALEKSEYEV, Yu. N., KOLOSHNITSYN, V. A., MALYSHEV, G. P., NIKOLAYEVA, V. N. and SERGIYEVSKIY, N. A.

"An Experimental Study of the Effect of Surface Cooling on Laminar-Turbulent Transition in the Boundary Layer"

Minsk, Teplo- i Massoperenos (Heat and Mass Transfer), Vol 1, 1972, pp 171-175; (Referativnyy Zhurnal, Series 41, No 6, 1972, Abstract No 6.41.181)

Abstract: The purpose of this study was to investigate the effect of surface cooling on flow regime in the boundary layer, given mainly subsonic flow rate around abody, at which time air compressibility can be ignored. The experiment was conducted with identical models in two different wind tunnels with different degrees of turbulence: for the first tunnel, $\varepsilon = 0.5\%$, for the second, 0.08%. The model was in the form of a hollow aluminum cylinder 100 mm in diameter, the nose cone being in the form of an ellipsoid of rotation with axis ratio $l/b = 9$. The surface of the model was polished; length of the working section was 2.0 m. Distribution of static pressure was marked by absence of a gradient over practically the entire length of the working section. The electrothermoanemometric method was used to determine flow regime in the boundary layer. Wall temperature was measured with use of calked

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USSR

ALEKSEYEV, Yu. N., et al., Teplo- i Massoperenos (Heat and Mass Transfer), Vol 1, 1972, pp 171-175; (Referativnyy Zhurnal, Series 41, No 6, 1972, Abstract No 6.41.181)

chromel-copel thermocouples. During the experiment the transition position was determined twice: in the first instance, for $T_w = T_\infty$, while in the second, the cavity of the model was filled with melting ice. Experimental procedures and results are given in tabular form. It is concluded that 1) surface cooling leads to stabilization of flow in the boundary layer of an incompressible gas, and 2) with increase in thermal head the thermal Reynolds number rises. Biblio. 4, illus. 3, tables 1.

2/2

USSR

UDC 612.314.58(088.8)

IVANCHUK, B. N., KOLOSKOV, I. I., and RUVINOV, B. Ya.

"D-C Voltage Regulation"

USSR Author's Certificate No 274215, filed 18 June 69, published 29 Sep 70 (from RZh--Elektronika i yeye primeneniye, No 5, May 1971, Abstract No 5B444P)

Translation: A voltage regulator contains a principal thyristor and a linear reactor with a tap, connected in series with the power supply into the load circuit. A commutating capacitor is connected between the midpoint of the linear reactor and the other terminal of the power supply. A capacitor is shunted by a semiconductor diode connected opposite to the effective polarity. It is proposed to connect an auxiliary thyristor parallel to the load, during operation of which the load circuit is short circuited and during which the capacitor discharge current flowing across the linear reactor produces a voltage locking the principal thyristor. 1 ill. A.S.

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1/2 010 UNCLASSIFIED PROCESSING DATE--02OCT70

TITLE--ELECTROMECHANICAL START UP TIME CONSTANT OF A WAVE TYPE ELECTRIC MOTOR -U-

AUTHOR-(03)-BERTINOV, A.L., VARLEY, V.V., KOLOSKOV, M.S.

COUNTRY OF INFO--USSR

SOURCE--IZV. VUZ. ELEKTROMEKHANIKA, JAN. 1970, P. 51-56

DATE PUBLISHED-----JAN70

SUBJECT AREAS--ELECTRONICS AND ELECTRICAL ENGR.

TOPIC TAGS--SERVOMOTOR, TRANSIENT ELECTROMAGNETIC FIELD

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1986/0372 STEP NO--UR/0144/70/000/000/0051/0056

CIRC ACCESSION NO--AP0102384

UNCLASSIFIED

2/2 010 UNCLASSIFIED PROCESSING DATE--02OCT70

CIRC ACCESSION NO--AP0102384

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. INVESTIGATION OF THE TRANSIENT RESPONSE CHARACTERISTICS OF A NEW SERVO ELECTRIC MOTOR WHICH INVOLVES A COMBINATION OF AN ELECTROMECHANICAL ENERGY CONVERTER WITH WAVE TRANSMISSION. THE MOTOR IS CHARACTERIZED BY THE PRESENCE OF TWO MOMENTS: (1) THE MOMENT CREATED BY THE FORCES OF A ROTATING ELECTROMAGNETIC FIELD, AND (2) THE MOMENT ARISING AT THE OUTPUT TRANSMISSION SHAFT DUE TO THE CONVERSION OF WAVE DEFORMATION INTO SLOW ROTATION. THE ENERGY METHOD IS USED TO CALCULATE THE MOMENT OF INERTIA OF AN ELASTIC ROTOR DURING WAVE DEFORMATION. THE SYNCHRONOUS ELECTROMAGNETIC MOMENT AT THE STATOR SURFACE, WHICH CAUSES A DISPLACEMENT OF THE DEFORMATION WAVE, IS ALSO CALCULATED. EXPRESSIONS ARE OBTAINED FOR THE ELECTROMECHANICAL START UP TIME CONSTANTS OF REACTIVE WAVE MOTORS AND WAVE MOTORS WITH EXCITATION. EXPERIMENTAL RESULTS ARE OUTLINED, AND IT IS SHOWN THAT THE RESPONSE OF A WAVE MOTOR IS MUCH FASTER THAN THAT OF AN ASYNCHRONOUS ELECTRIC SERVO MOTOR WITH A HOLLOW ROTOR.

UNCLASSIFIED

AA0039840 K Koloskov, S.P. UR 0482

Soviet Inventions Illustrated, Section I Chemical, Derwent,

2/70

237081 APPARATUS FOR CULTIVATING MICROORGANISMS such as fungi, comprises a rotating drum 1 provided with a charging hatch 2, and two hollow pivots 3, through which tubes 4 and 5 are passed. Steam, sterile water, air and vaccination preparations are consecutively fed through tube 4. Tube 5 serves as an outlet for steam, and culture suspension. The end of tube 5 is branched, and one of the branches is provided with pins 6. The drum is equipped with blades 7 fixed to springs, which improves the mixing and aeration of the medium. The charging hatch 2 is provided with a filter made, e.g. of Petryanov's fabric. The medium is

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charged through hatch 2, and then sterilised with steam at 2-3 atm. gauge for 60-70 mins. The medium is allowed to cool, then sterile water and the vaccination preparation are introduced through tube 4. When the drum rotates, the blades 7 strike pins 6, and vibrate, thus agitating the medium and the air

in the drum. A considerable intensification of the cultivation process is achieved. 16.10.67. as 1190489/28-13. S P.KOLOSKOV et alia. All-Union Institute of Alcohol and Liqueur Industry. (20.6.69.) Bul.8/12.2.69. Class 6a. Int.Cl. C12k.

AUTHORS: Koloskov, S. P.; Yarovenko, V. L.; Kalunyants, K. A.; Makeyeva, A. N. and Golger, L. I.

Vsesoyuznyy Nauchno - Issledovatel'skiy Institut Spirtovoy i Likero - Voduchnoy Promyshlennosti

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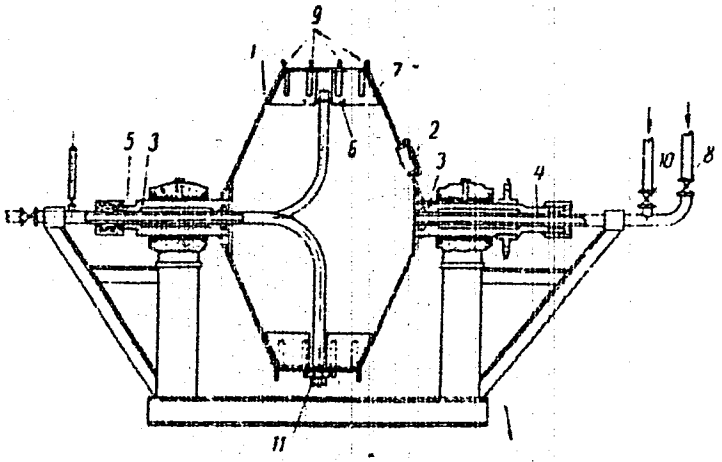
19741218

AA0039840



1/2 043 UNCLASSIFIED PROCESSING DATE--23OCT70

TITLE--SECOND HARMONICS OF INJECTION LASER RADIATION -U-

AUTHOR-(02)-KRUZHILIN, YU.I., KOLOSKOV, YU.I.

COUNTRY OF INFO--USSR

SOURCE--ZH. PRIKL. SPEKTROSK. 1970, 12,1, 334-5

DATE PUBLISHED-------70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--SECOND HARMONIC, LASER RADIATION, GALLIUM ARSENIDE LASER, CRYSTAL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1989/1014 STEP NO--UR/0368/70/012/002/0334/0335

CIRC ACCESSION NO--AP0107528

UNCLASSIFIED

2/2 043 UNCLASSIFIED PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0107528

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. EXPTL. DATA ARE REPORTED ON THE EXCITATION OF THE 2ND HARMONICS OF AN INJECTION LASER OF GAAS IN KH SUB2 PO SUB4 CRYSTALS. THE LASER WAS OPERATED IN THE PULSE REGIME OF 5 KHZ AND 10 SEC DURATION WITH OUTPUT POWER 2-3 W. THE 2ND HARMONICS LINE WITH WAVELENGTH 4560 PLUS OR MINUS 25 ANGSTROM AND WIDTH 6 PLUS OR MINUS 2 ANGSTROM WAS OBTAINED FROM THE LASER LINE AT 9100 PLUS OR MINUS 40 ANGSTROM AND WIDTH 25 PLUS OR MINUS 10 ANGSTROM. THE 2ND HARMONICS BLUE RADIATION WAS POWERFUL ENOUGH FOR VISUAL OBSERVATION IN THE DAYLIGHT. THE 2ND HARMONICS POWER OUTPUT IS APPROX. A SQUARE FUNCTION OF THE LASER POWER. AT ROOM TEMP. THE LASING AT 9100 ANGSTROM IS ACCOMPANIED BY RADIATION AT 4550 PLUS OR MINUS 35 ANGSTROM WITH THE LINEWIDTH 8 PLUS OR MINUS 3 ANGSTROM.

UNCLASSIFIED

USSR

UDC 661.718.1 + 547.38 + 547.514

ARBUZOV, B. A., FUZHENKOVA, A. V., ZINKOVSKIY, A. F., and KOLOSKOVA, T. N., Scientific Chemical Research Institute imeni A. M. Butlerov at the Kazan' State University

"Reaction of Trialkyl Phosphites With Indanocyclone"

Leningrad, Zhurnal Obshchey Khimii, Vol 43 (105), No 10, Oct 73, pp 2129-2133

Abstract: The reaction of trialkyl phosphites with indanocyclone goes along the Arbuzov rearrangement route, forming 1:1 bipolar type addition compounds at the first stage. If the reaction is carried out in presence of acetic acid or acetic anhydride, a series of enols is formed. An intermediate product is a bipolar ion whose presence was shown by thermographic and spectral data. An analogous addition product forms in a reaction of indanocyclone with tris(dimethylamino)-phosphine.

Acc. Nr: AP0051930 Ref. Code: UR 0219

PRIMARY SOURCE: Byulleten' Eksperimental'noy Biologii i Meditsiny, 1970, Vol 69, Nr 2, pp 91-93

ON THE SHORT-TERM TRANSPLACENTAL EFFECT OF URETHAN ON THE ORGAN CULTURES OF EMBRYONAL PULMONARY TISSUE IN MICE

T. S. Kolesnichenko, V. A. Kvitnitskaya

Institute of Experimental Oncology of the Academy of Medical Sciences of the USSR, Moscow

Predadenomatous alterations — diffuse hyperplasia of the epithelium develop in cultures of the embryonal pulmonary tissue of mice following short-term transplacental action of single heigh urethan doses. With the increase in the duration of the experiment their frequency augmented but no change-over of diffuse hyperplasia to a focal one or to adenoma was recorded. The results testify to the importance of not only the dosage of the substance, but also to the time of its action necessary for the blastomogenic effect of urethan to become manifest.

REEL/FRAME
19820413

Acc. Nr: AP0053456 Abstracting Service: CHEMICAL ABST. 5176 Ref. Code: 4R 0366

110702z **Alkyl(aryl)thioalkoxyethylenes.** Shostakovskii, M. F.; Komarov, N. V.; Mikhailov, Z. I.; Kolosnitsyna, T. I. (Irkutsk. Inst. Org. Khim., Irkutsk, USSR). *Zh. Org. Khim.* 1970, 6(2), 233–7 (Russ). The reaction of $RS(CH_2)_nOH$ with HC:CH in the presence of $RS(CH_2)_nOK$ gave ~80% $RS(CH_2)_nOCH{:}CH_2$ (I) (R and *n* given): Pr, *2;* Bu, *2;* heptyl, *2;* $PhCH_2$, *2;* Et, *3;* Pr, *3;* neopentyl, *3;* heptyl, *3;* Ph, *3;* and $PhCH_2$, *3*. The reaction of I (R = Bu, *n* = 3) (II) with BuOH gave $BuS(CH_2)_3OCHMeOBu$, which on prolonged heating split to $MeCH(OBu)_2$ and $MeCH[O(CH_2)_3SBu]_2$ (III). Condensation of II with $BuS(CH_2)_3OH$ also gave III. The reaction of I with AcOH gave $R(CH_2)_nOCHMeOAc$. CPJR

REEL/FRAME
19830481

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USSR

UDC 389:531.5.081

STANYUKOVICH, K. P., and KOLOSNITSYN, N. I.

"Gravitation and Metrology"

Khar'kov, Ukr. resp. nauch.-tekhn. konf., posvyashch. 50-letiyu metrol. sluzhby USSR, 1972 -- sb. (Ukrainian Republic Scientific and Technological Conference Honoring the 50th Anniversary of the Ukrainian SSR's Metrological Service, 1972 -- Collection of Works), 1972, pp 14-16 (from Referativnyy Zhurnal -- Metrologiya i Izmeritel'naya Tekhnika, No 2, 1973, Abstract No 2.32.58)

Translation: The requirements for standards of physical values (such as time and frequency) and the conditions for their reproduction should contain some indication of the system of reference in which the standards are defined. Any (noninertial) reference system has an effect on any physical value, including physical standards, that is basically uneliminatable. This effect is caused by the gravitational and relativistic effects included in the modern theory of gravitation. For example, because of the Earth's daily rotation in the Sun's gravitational field, all terrestrial clocks should be subjected to daily variations, the level of which depends on their geographical location and can reach approximately 10^{-12} for clocks located at opposite points on the Earth's equator. In addition to the daily variations, there are also annual ones, at the level of $5 \cdot 10^{-10}$, which are identical for all time and frequency standards

USSR

STANYUKOVICH, K. P., and KOLOSNITSYN, N. I., Ukr. resp. nauch.-tekhn. konf., posvyashch. 50-letiyu metrol. sluzhby USSR, 1972 -- sb, pp 14-16

(including atomic), regardless of where they are located on the Earth's surface. Clocks in an airplane that is flying either east or west at a uniform rate of speed will run either slower or faster, respectively, with respect to stationary clocks. The properties of the fundamental physical constant -- the gravitational constant G -- are determined by the properties of the gravitational interaction of bodies and the relationship between a body's gravitational and inertial masses. Theory allows the gravitational mass to be divided into "active" and "passive" masses, which leads to the concepts of "active" and "passive" gravitational constants, respectively. The experimental material that is available makes it possible to estimate the equality of the active gravitational constant, with an accuracy of $1:10^5$, and the passive gravitational constant, with an accuracy of $1:10^{12}$, for all substances. The possible difference between the propagation speed of gravitational interaction and the speed of light entails anisotropy of the gravitational constant. A comparison of the expected effect with data on surges shows that $(\Delta G/G)_{anis.} < 10^{-9}$, while the speeds at which light and gravity are propagated differ by less than 1.5 percent. A careful investigation of all aspects of gravitational interaction

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USSR

STANYUKOVICH, K. P., and KOLOSNITSYN, N. I., Ukr. resp. nauch.-tekhn. konf., posvyashch. 50-letiyu metrol. sluzhby USSR, 1972, -- sb, pp 14-16

and the gravitational constant requires that special experiments be formulated. An analysis of the fundamental physical constants shows that, since the Universe is not stationary (its radius is constantly increasing), their values must change. A number of modern theories of gravitation also point to the inevitability of a change in the basic physical constants as time passes.

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USSR

UDC 534.321.9:53[illegible].787

AGALETSKIY, P. N., and KOLOSOV, A. N.

"Metrological Investigation of a Precision Ultrasonic Measuring Transducer of High Hydrostatic Pressures"

Moscow, Izmeritel'naya Tekhnika, No 2, Feb 73, pp 41-43

Abstract: Results are presented of an experimental investigation of measuring transducers of pressure in the form of rods of NaCl single crystal and α-iron, in which is used the interrelation between hydrostatic pressure and the relative passing duration of elastic waves through the rod. On the basis of experimental data, it is assumed that the character of graduated dependence of investigated measuring transducers remains unchanged at pressures up to $15 \cdot 10^8$ Pascal. In small-scale specimens of NaCl and α-iron, subjected to ultrasonic irradiation, a very stable dependence appears between the passing period of elastic waves through the specimen and the hydrostatic pressure.

USSR

AGALETSKIY, P. N., and KOLOSOV, A. N., Izmeritel'naya Tekhnika, No 2, Feb 73, pp 41-43

This dependence is for α-iron linear, for NaCl it is a 2nd order function. Ultrasonic measuring transducers of pressure are recommended as starting point in developing checking means for measuring high hydrostatic pressures. One figure, one table, two bibliographic references.

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KOLOSOV, A.N.

JPRS 50764

17 April 1973

DISPOSAL OF RADIOACTIVE WASTES

Collection of papers sponsored by the State Committee for the Use of Atomic Energy of the USSR, 1972, Moscow

CONTENTS

TECHNICAL-ECONOMIC COMPARISON OF THE METHODS OF SOLIDIFICATION AND TANK STORAGE FOR HIGHLY ACTIVE LIQUID WASTES FROM THE PROCESSING OF SPENT FUEL ELEMENTS OF WATER-COOLED WATER-MODERATED POWER REACTORS

[Paper by L. G. Azamayeva, Z. G. Il'ina, A. N. Kolesov, A. N. Kondrat'yev, M. A. Khodas, and A. A. Khmel'kovich, State Committee for the Use of Atomic Energy of the USSR (Radium Institute imeni V. G. Khlopin), Russian, IAEA publication SM-136/31, Moscow, 1972]

The development of atomic power engineering imposes on the specialists of all countries engaged in this problem a great responsibility to future generations with respect to reliability of rendering radioactive wastes from a complex of enterprises serving this branch of industry harmless.

Naturally, the greatest difficulties arise in handling wastes of a high level of activity, the quantity of which is continuously increasing [1].

For each million kilowatts of installed electric power of atomic reactors, in the processing of TVEL (fuel elements) of the VVER (water-cooled water-moderated power reactor) type approximately 40 cubic meters per year of such wastes are formed.

For rendering wastes of a high level of activity harmless by radioactive decay, storage for several hundred years is required. Aside from this it is known that the storage of wastes of a high level of activity in the form of solutions is costly, complicated, and unreliable, since it is necessary to cool them for a long time to remove the heat liberated in the decay of the radioactive elements, and also to ventilate the tanks with air for dilution of the hydrogen formed due to radiolysis of the solution. In connection with the fact that the service life of the storage spaces amounts to 20--25 years, the construction of additional tanks is required, to replace those which have broken down. Concern about the construction and operation of storage spaces

In this case are transferred to following generations. It is natural that the idea of enclosing radioactive wastes in glasses and bitumens that are only slightly soluble in water is entirely logical, as these substances may be reliably buried for a prolonged period without great expenditures on the operation of storage spaces. However, the majority of scientists consider that enclosure in bitumen is permissible only for wastes with a specific activity of less than 10 curies per liter. At a greater specific activity swelling and failure of the bitumen is observed, because of the liberation of gases formed as a result of radiolysis. The storage spaces for bitumen must be made with an explosive-proof design, since one of the basic gases liberated is hydrogen (2, 3). For more active solutions (> 10 curies per liter) obtained in the processing of TVEL from atomic reactors with a high burnup of fuel, vitrification is a more reliable method.

In this work a technical and economic comparison of two methods of handling highly active wastes is performed: storage in tanks and vitrification with subsequent storage of the glass blocks. (A comparison with the method of pumping wastes into deep formations of the earth's crust is performed in a work by V. I Spitsin and others.)

In the Soviet Union and in other countries several methods of vitrification of liquid wastes with a high level of activity are being developed, which differ in technology and design of the apparatuses, but all of them may be conditionally divided into two groups: single-stage and two-stage processes.

Single-stage processes are simpler with respect to formulation of the apparatus, but, however, their operation is very complicated, the service life of the apparatuses is insignificant. In connection with the fact that in the process of digesting glass at a temperature of 900--1000 degrees C a contact of the nitric-acid solutions and the nitrogen oxides in the water vapors with the walls of the apparatuses occurs.

It appears more feasible to conduct the process of vitrification in two stages: to perform dehydration and calcination at comparatively low temperatures (350--400° C), and to form the glass at high temperatures (900--1000° C). One of such methods is the method being developed in the Soviet Union (6), with respect to which the process of drying and calcination is performed in an apparatus with a boiling layer, and the process of vitrification in a ceramic (concrete) crucible by means of an induction current.

A technical-economic analysis of the method of storing solutions is considered in detail in a paper by V. I. Spitsin and others. In this paper, an analysis is made of only the method of vitrification and a comparison of it with the storage of solutions.

AA0044783

UR 0482

Soviet Inventions Illustrated, Section II Electrical, Derwent,

2/70

243219 TENSOMETRIC COMMAND SENDER, designed for the purpose of the remote control by electrical means of an object in a plane-rectangular co-ordinate system, has a point of improvement over other designs in that it enables one operator to control simultaneously both the object concerned and its carrier with an accuracy of no lesser magnitude than that of the two operations separately. The transmission device consists of a thin-walled metal tube and end flange 1, along the stem of which are cemented four diametrally opposed strain gauges 6. The unit is enclosed in a body 5, together with

AUTHORS: Kolosov, A. P.; Timin, R. I.; Chuyev, V. G.; Chesunov, V. V.

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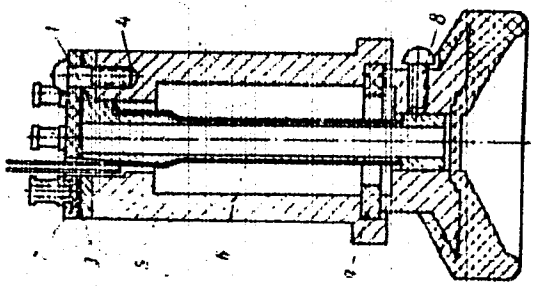
AA0044783

insulating disc and terminal plate 3,2 by screws 4. The lower end of the body is sealed by the control knob 7, fastened to the gauge tube by screws 8 and seated on a rubber washer 9. The four strain gauges are connected, one each, into an arm of DC bridges, whence the signals pass through parallel units of modulator, amplifier (DC) and demodulator, to two outputs controlling the respective movements of the object. The reduced diameter of 7 serves to limit the bending of the gauge tube at its lower end.

5.7.67 as 1169786/40-23.A.P.KOLOSOV et alia(24.9.69) Bul 16/5.5.69. Class 42k. Int.Cl.G 01 l.



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19771596

USSR

UDC 621.355.8.035.2

KUDRYASHOVA, G. M., MOKHNATIKIN, V. M., LOMOV, M. I., and KOLOSOV, A. S.

"Concerning the Problem of the Structure of a Two-Phase Flow in a Densely Packed Energizer Stack"

V sb. Issled. v obl. khim. istochnikov toka (Research in the Field of Chemical Sources of Current -- collection of works), vyp 2, Saratov, Saratov. un-t, 1971, pp 58-61 (from RZh-Khimiya, No 18, Sep 72, Abstract No 18L179)

Translation: Analysis of the distribution of the gas-liquid mixture between close-stacked plates of alkaline energizers shows that when materials of the nylon type are used as the separation between electrodes, continuous liquid and gas phases exist simultaneously in the interelectrode gap.
V. S. Levinson.

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USSR

UDC 669.245.26.018.44[539.4+539.214]

KOLOSOV, I. Ye., PARSHIN, A. M.

"Long-Term Strength and Ductility of Kh20N45B Alloy"

Metallovedeniye[Metal Science -- Collection of Works], No. 14, Leningrad, Sudostroyeniye Press, 1970, pp 140-144. (Translated from Referativnyy Zhurnal Metallurgiya, No. 5, 1971, Abstract No. 5 I724 by the authors).

Translation: The long-term strength and ductility of fine-grained and large-grained type Kh20N45B alloy are studied at 450-850°. This alloy has relatively high deformation capacity over a broad range of temperatures. This results from the preferential separation of the secondary intermetallic phase $NiNb_2$ within the grains of the solid solution, decreasing localization of deformations along grain boundaries. 4 figs; 1 table; 6 biblio refs.

1/1

UDC 632.95

USSR

KOLOSOV, I. I., All Union Scientific Research Institute of Agricultural and Special Application of Civic Aviation

"Application of Fungicides in Aereal Spraying of Seeded Clover"

Moscow, Khimiya v Sel'skom Khozyaystve, Vol 10, No 7 (105), 1972, pp 38-40

Abstract: Field experiments were carried out in the period 1968-1970, using aereal spraying of the clover fields to control the diseases spread by fungi. In addition to fungicidal agents the plants were sprayed with fertilizers and pesticides to supplement the treatment. Cineb was found to be the most effective fungicidal agent for aereal spraying, lowering the anthracnose infection of the leaves and stalks by 50-86%.

1/1

UDC 576.8.097.29:591.524.1

USSR

STROGANOV, N. S., KHOBOT'YEV, V. G., KOCHKIN, D. A., KOLOSOVA, L. V., and EL'KHANOV, G. E., Chair of Hydrobiology, Moscow State University imeni M. V. Lomonosov

"Toxicity of Some Organometallic Compounds for Hydrobionts. I. The Effect of Alkylmethacryloxyplumbanes"

Moscow, Nauchnyye Doklady Vysshey Shkoly, Biologicheskiye Nauki, No 10, 1970, pp 13-17

Abstract: Experiments with organolead derivatives, tri- and di alkylmethacryloxyplumbanes showed that these compounds are a thousand times more toxic to the crustacean Daphnia magna Strauss than to the algae Scenedesmus quadricauda and Chlorella vulgaris. Even at concentrations of 0.001 mg/liter, the survival rate of the crustaceans was 10 to 75% lower than that of the controls. The compounds were toxic to the algae only at concentrations of 0.5 to 1 mg/liter or higher. The survival rate of the crustaceans in solutions of the substances was very low by the 15th day, whereas the number of algae decreased by only 50% during this time. Toxicity was clearly manifested only at the 30th day, when the number

USSR

STROGANOV, N. S., et al, Nauchnyye Doklady Vysshey Shkoly, Biologicheskiye Nauki, No 10, 1970, pp 13-17

of cells decreased sharply. These results suggest that alkylmethacryloxyplumbanes might be used in commercial bodies of water to suppress the population of certain zooplankton organisms.

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USSR UDC 519.281

GEL'FANDBEYN, Ya. A., KOLOSOV, L. V., YUSUPOV, R. M.

"Estimate of Statistical Characteristics of External Perturbations and Internal Noise in Functioning Dynamic Systems"

Identifikatsiya [Identification -- Collection of Works], Moscow, Nauka Press, 1970, pp 24-35 (Translated from Referativnyy Zhurnal Kibernetika, No 3, 1971, Abstract No 3 V141 by V. Noskov).

Translation: A multivariate dynamic system with n inputs x_i, i = 1, 2, ..., n and p outputs y_ν, ν = 1,2, ..., p it studied. The signals

$$\varphi_i = x_i(t) + \mu_i(t),$$
$$S_\nu = N_\nu(t) + y_\nu(t) + \psi_\nu(t),$$

are accessible to observation where μ_i and ψ_ν are measurement noises, not correlated with signals, and N_ν are perturbations. The results of observations (ϕ_i, S_ν) must be used to determine the perturbation N_ν.

1/2

USSR UDC 519.281

'GEL'FANDBEYN, Ya. A., KOLOSOV, L. V., YUSUPOV, R. M., Identifikatsiya, Moscow, Nauka Press, 1970, pp 24-35.

It is demonstrated that under certain conditions, solution of the integral equation can be used to find the impulse transient functions of the system and then the perturbations can be determined by the method of least squares.

2/2

USSR

UDC: 621.373.826:53

AGANBEKYAN, K. A., ZRAZHEVSKIY, A. Yu., KOLOSOV, M. A., SOKOLOV, A. V.

"Absorption of Submillimeter Radiation in Pure Water Vapor"

Moscow, V sb. X Vses. konf. po rasprostr. radiovoln. Tezisy dokl. (Tenth All-Union Conference on the Propagation of Radio Waves; Report Theses--collection of works) "Nauka," 1972, pp 35-38 (from RZh--Radiotekhnika, No 10, 1972, Abstract No 10D362)

Translation: Results are given of the calculation on a computer of the absorption in the submillimeter wavelength range as a function of pure water vapor pressure. Comparison of the results of the calculation with the experimental data in the transparency windows of 0.73, 0.45, 0.36, and 0.29 mm shows that the computed values are below the measured ones. One illustration, one table, bibliography of seven. A. L.

1/1

USSR

UDC 621.371.029.65/66

KOLOSOV, M. A. and SOKOLOV, A. V., Academy of Sciences of the USSR in Moscow

"Some Problems in the Propagation of Millimeter and Submillimeter Radio Waves"

Moscow, Radiotekhnika i Elektronika, Vol. 15, No. 4, April 1970, pp. 667-676.

Abstract: This is a general survey of the field of millimeter and submillimeter radio wave attenuation. The major sections considered are absorption by atmospheric molecules and water vapor, and absorption by fogs and precipitation.

There is also a brief discussion of new techniques in generation and detection of these waves, with particular mention of A. V. Gaponov and his use of masers working at cyclotron resonance in a strong longitudinal magnetic field, orotrons and the use of an antimony indium superheterodyne receiver operating at the temperature of liquid nitrogen to detect 8 mm waves, theoretically applicable also for submillimeter waves. T. M. Lifshits has developed an antimony indium receiver operating on the cyclotron resonance principle, which is tunable from 30-400 micrometers.

With respect to atmospheric absorption, the authors point out wide discrepancies between the theoretical and experimental results. They discuss the possibilities of dimer absorption and absorption in water vapor due to the nonrigidity of the molecules, and suggest other possibilities.

1/2

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R001401420006-3"

USSR

KOLOSOV, M. A., et al, Radiotekhnika i Elektronika, Vol. 15, No. 4, April 1970, pp. 667-676

With respect to the absorption of these waves by fogs and precipitation, the authors site some results and point out the extreme difficulty of recording the many variables involved in an actual rainfall. A considerable portion of the article is devoted to listing various experimental investigations, some in the Soviet Union and many in foreign countries.

The authors conclude that a great deal more work is necessary to develop the physical theories of attenuation, particularly dimer absorption, and that there is an immediate need for a great deal more experimental work to determine the conditions of propagation in the free atmosphere as a function of distance, frequency, temperature and meteorological conditions.

The article includes 50 bibliographic references, approximately two-thirds in Russian, one-third in English and a few in German.

2/2

1/2 027 UNCLASSIFIED PROCESSING DATE--16OCT70

TITLE--CERTAIN PROBLEMS OF THE PROPAGATION OF MILLIMETER AND SUBMILLIMETER RADIO WAVES -U-

AUTHOR-(02)-KOLOSOV, M.A., SOKOLOV, A.V.

COUNTRY OF INFO--USSR

SOURCE--RADIOTEKHNIKA I ELEKTRONIKA, VOL. 15, APR. 1970, P. 667-676

DATE PUBLISHED--------70

SUBJECT AREAS--ATMOSPHERIC SCIENCES, NAVIGATION

TOPIC TAGS--RADIO WAVE PROPAGATION, MILLIMETER WAVE PROPAGATION, SUBMILLIMETER PROPAGATION, METEOROLOGIC PHENOMENON

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1996/1088 STEP NO--UR/0109/70/015/000/0667/0676

CIRC ACCESSION NO--AP0118238

UNCLASSIFIED

2/2 027 UNCLASSIFIED PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AP0118238

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. SHORT SURVEY OF STUDIES OF THE ATMOSPHERIC PROPAGATION OF MILLIMETER AND SUBMILLIMETER RADIO WAVES CONDUCTED BOTH IN THE USSR AND ELSEWHERE WITHIN THE PAST FIVE YEARS. PROGRESS IN THE DEVELOPMENT OF TRANSMITTING AND RECEIVING MEASUREMENT EQUIPMENT IS OUTLINED. AND ATTENTION IS GIVEN TO THE CURRENT STATE OF THEORETICAL AND EXPERIMENTAL RESEARCH INTO MOLECULAR AND AEROSOL ATTENUATION IN A REAL ATMOSPHERE. PROBLEMS REQUIRING FURTHER STUDY IN THE NEAR FUTURE ARE INDICATED, INCLUDING (1) PROPAGATION AS A FUNCTION OF RANGE, FREQUENCY, TEMPERATURE, AND METEOROLOGICAL CONDITIONS, (2) THE THEORY OF DIMER ATTENUATION, AND (3) PROPAGATION DURING PRECIPITATION.

UNCLASSIFIED

Corrosion

UDC:620.193.01

USSR

RISKIN, P. V., KOLOSOV, M. G. and TOMASHOV, N. D.

"Corrosion Behavior of Titanium and Its Alloys with Palladium During Heat Transfer in Moving Solutions"

Moscow, Zashchita Metallov, Vol 10, No 1, Jan-Feb 74, pp 28-32

Abstract: The influence of heat transfer and motion of hydrochloric acid on the corrosion behavior of titanium and its alloy with 0.2% Pd is studied using a rotating heat transmitting disc electrode designed by the Ukrainian Scientific Research Institute for Chemistry. The saturation of solutions of hydrochloric acid with air causes an increase in the temperature boundary of corrosion stability of titanium and its alloys with 0.2% palladium. The boundaries of corrosion stability of titanium and its palladium alloy in solutions of hydrochloric acid depend on the wall and medium temperature, the temperature drop and the direction of the heat flux. Upon transition of laminar flow mode around a disc to turbulent flow, the temperature boundaries of corrosion stability in aerated solutions of hydrochloric acid increase.

1/1

USSR

UDC 669-412.141.241.2:658.562

KOLOSOV, M. I., STROGANOV, A. I., SMIRNOV, YU. D., and OKHRIMOVICH, B. P.

"Killed Steel Ingot Quality"

Moscow, Kachestvo slitka spokoynoy stali (cf. English above), Metallurgiya, 1973, 408 pp (from Kachestvo slitka spokoynoy stali, Metallurgiya, 1973, pp 2-5)

Translation of Annotation: This book is devoted to the description of the process of crystallization of a killed steel ingot. A study is made simultaneously of the processes occurring on solidifying of the ingot: the behavior of the gases and nonmetallic inclusions, the admixture distribution, convective flows, and so on.

A great deal of attention in the book is given to the investigation of various macro and microdefects of the steel ingot and in the majority of cases practical recommendations are made with respect to elimination of them.

The book is intended for engineering and technical workers of the metallurgical plants, the planning and design and scientific research institutions and training institutions, and it can be useful for students specializing in steel metallurgy.

There are 89 illustrations, 60 tables and a 551-entry bibliography.

Contents

1/5

USSR

KOLOSOV, M. I., et al., Kachestvo slitka spokoynov stali, Metallurgiya, 1973, 408 pp

USSR

KOLOSOV, M. I., et al., Kachestvo slitka spokoynov stali, Metallurgiya, 1973, 408 pp

USSR

KOLOSOV, M. I., et al., Kachestvo slitka spokoynov stali, Metallurgiya, 1973, 408 pp

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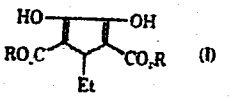
USSR

KOLOSOV, M. I., et al., Kachestvo slitka spokoynov stali, Metallurgiya, 1973, 408 pp

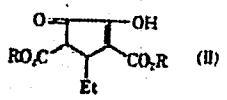
5/5

Acc. Nr: AP0053766 Abstracting Service: CHEMICAL ABST. 5-70 Ref. Code: UR0366

110861a 2-Hydroxy-4-ethyl-2-cyclopenten-1-ones. Gurevich, A. I.; Kolosov, M. N.; Korobko, V. G. (Inst. Khim. Prir. Soedin., Moscow, USSR). *Zh. Org. Khim.* 1970, 6(2), 311–13 (Russ). The condensation of RO_2CCO_2R (R = Et or $PhCH_2$) with $RO_2CCH_2CHEtCH_2CO_2R$ in the presence of MeONa or NaH gave disubstituted 1,2-dihydroxy-4-ethyl-2,5-cyclopentadiene (I). NMR spectrum of I (R = CH_2Ph) showed the presence of some of its tautomer: disubstituted 2-hydroxy-4-ethyl-2-cyclopenten-1-one (II) (R = $PhCH_2$). The hydro-



(I)



(II)

genolysis of I-II mixt. and decarboxylation of the products under mild conditions gave 2-hydroxy-4-ethyl-2-cyclopenten-1-one-3-carboxylic acid, which on heating at 130° gave the title compd. required in the synthesis of Abikoviromycin degradation products (A. I. Gurevich, *et al.*, 1968). CPJR

AW

1/1

REEL/FRAME 19830829

7

1/2 011 UNCLASSIFIED PROCESSING DATE--23OCT70
TITLE--STEREOCHEMISTRY OF ANTIBIOTICS OF THE AUREOLIC ACID GROUP -U-

AUTHOR-(03)-BERLIN, YU.A., KOLOSOV, M.N., PIOTROVICH, L.A.

COUNTRY OF INFO--USSR

SOURCE--TETRAHEDRON LETT. 1970, (16), 1329-31

DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--STEREOCHEMISTRY, ANTIBIOTIC, MOLECULAR STRUCTURE/(U)OLIVIN ANTIBIOTIC, (U)CHROMOMYCIN ANTIBIOTIC, (U)OLIVOMYCIN ANTIBIOTIC

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1999/0414 STEP NO--UK/0000/70/000/016/1329/1331

CIRC ACCESSION NO--AP0122594

UNCLASSIFIED

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R001401420006-3"

2/2 011 UNCLASSIFIED PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0122594

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. CHEM. EVIDENCE IS GIVEN FOR THE ABS. CONFIGURATION OF 1 PRIME S, 2S, 3R, 3 PRIME S, 4 PRIME R FOR OLIVIN (I, R EQUALS R PRIME1 EQUALS R PRIME2 EQUALS H) AND CHROMOMYCIN (I, R EQUALS ME, R PRIME1 EQUALS R PRIME2 EQUALS H), WHICH ARE THE AGLYCONES OF AUREOLIC ACID, CHROMOCYCINS AND OLIVOMYCINS. FACILITY: INST. CHEM. NAT. PROD., MOSCOW, USSR.

UNCLASSIFIED

USSR

KOLOSOV, S.P.; KALMYKOV, I.V.; NEFEDOVA, V.I.

"Elements of Automation" (book)

Moscow, Mashinostroyeniye Publishing House, 1970, 392 pp

Annotation: The book contains basic information on the structure, theory, and design of the elements (means of automation) comprising automatic control systems -- mechanical, electromechanical, ferromagnetic, electronic, semiconductor, etc.

Physically different elements of automation are considered from a point of view which reveals the common character of the structure of circuits and methods of design. The third edition is distinguished from the preceding one by the large variety of technical means of automation considered and the design of such elements as pneumatic and jet, thyristor, electronic-optical equipment, etc.

USSR

KOLOSOV, S.P., et al., "Elements of Automation" (book), Moscow, Mashinostroyeniye Publishing House, 1970, 392 pp

The textbook is designed for students of higher technical schools specializing in automation, but it can also be of interest to engineering and technical personnel concerned with problems of the design of means of automation.

There are 213 illustrations and 13 bibliographic references.

2/2

3

USSR UDC 621.317.7.029.65/66-5

VERTIN, A. A., PETRUSHIN, A. A., SUSLOV, N. N., SHESTOPALOV, V. P., KOLOSOV, S. S., LEONOV, Yu. I., and LITVINENKO, L. N.

"Automation of Experimental Research in the Millimeter and Submillimeter Wavelength Ranges"

Novosibirsk, V sb. Konf. po avtomatiz. nauch. issled. na osnove primeneniya ETsVM, 1972 (Conference on Automation of Scientific Research Using the Electronic Digital Computer, 1972--collection of works) 1972, pp 100-101 (from RZh--Radiotekhnika, No 10, 1972, Abstract No 10A515)

Translation: The proposed research method is based on the visualization of the field distribution in open structures (resonators, for example) by introducing into their space a test body which, entering a region of greater or lesser intensity in its motion along a specified trajectory, varies to some extent the parameters of the structures. The trajectory of the test body is traced by a beam on the screen of a cathode-ray tube. The brightness of the beam is proportional to the signal taken from the open structure.
A. K.
1/1

Acc. Nr: AA0101002 KOLOSOV S.V. Ref. Code:
Abstracting Service: UR 0482

Soviet Inventions Illustrated, Section III Mechanical and General, Derwent,

21848 QUICK ACTION COUPLING is more reliable and safe it provides instantaneous seal together with a hydraulic and a mechanical joint. Seal 3 mounted inside a body 2 grips a tube 1. The seal is compressed by a cover 4, the sleeve 5 and a catch 6. The cover has a space 7 connected to the flow and is connected through the channel 8 to a space 9 inside the sleeve 5. The liquid pressure provides a seal and the catch provides a mechanical joint.
15.3.67. as 1142108/25-8, KOLOSOV, S.V. YAKULIS, A.A.
(2.9.69) Bul. 14/18.4.69. Class 47f, Int. Cl. F 16j.

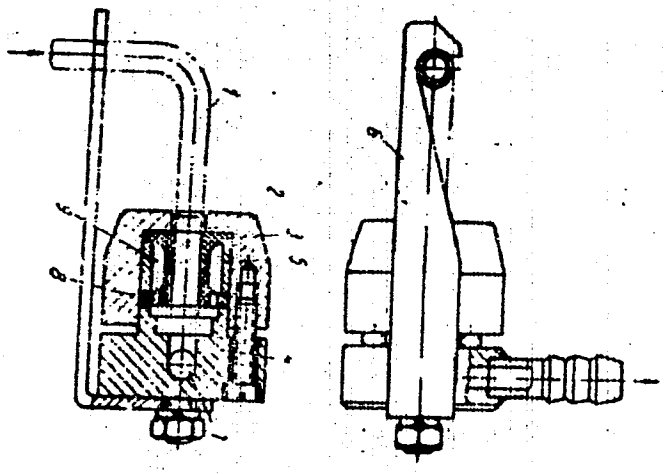
1/2

CK

18

REEL/FRAME
19850549

AA0101002



19850550

USSR UDC 621.57.041-213.3-752:621.565.92

BOGDANOV, V. P., MOROZOV, S. A., KOLOSOV, S. V., SVYATNYY, V. I.

"Vibration Spectrum of Household Refrigerator Compressors as a Function of Their Defects"

Moscow, Kholodil'naya Tekhnika, No 6, 1971, pp 19-22

Abstract: A study is made of the relation between the vibration characteristics of the household refrigerator compressor DKh2-1010 and its defects and failures. The vibration spectra of the compressor for one revolution of the crankshaft are presented, and a mathematical analysis of them is performed. Both artificially induced and ordinarily occurring defects and failures are considered. Division of the signal in time does not permit determination of all types of defects in the compressor since more than one defect can occur in certain intervals. Further separation of the signal within the intervals by means of filters and application of devices realizing elementary logical functions to separate defects generating the same frequencies permit analysis of all types of defects by their vibration characteristics. The same type of diagnostic device can be extended to all types of compressors.

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UDC 613, 693

USSR

BONDAREV, Z. V., YEGOROV, V. A., and KOLOSOV, V. A.

"Cardiovascular Function in Airplane Crews During Long Flights"

Moscow, Voyenno-Meditsinskiy Zhurnal, No 8, 1972, pp 65-67

Abstract: Study of cardiovascular changes in airplane crews during long flights and short flights involving refueling in the air revealed a direct correlation between the degree of stress present at a given stage of the flight and the cardiovascular response. For example, the heart rate before the engines were started was within normal limits (68 to 80 beats a minute) but higher than on nonflying days. At takeoff and landing the heartbeats of the pilots increased to 120 to 150 compared to 70 to 100 during the flight and 60 to 83 after the flight. As the plane approached general area of the tanker, the pilots' heart rate averaged 72 beats a minute, rising to 111 as the two planes neared and to 140 during the actual refueling (the tensest part of the flight). Analysis of the P-Q and Q-T intervals on the electrocardiogram also revealed changes directly related to the degree of stress present during the different situations encountered in flight.

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1 R

USSR UDC 537.591.15

VERNOV, S. N., Y'EGOROV, T. A., Y'EFIMOV, N. N., KOLOSOV, V. A., KORYAKIN, V. D., KRASIL'NIKOV, D. D., KUZ'MIN, A. I., KULAKOVSKAYA, V. P., MAKSIMOV, S. V., NESTEROVA, N. M., NIKOL'SKIY, S. I., ORLOV, V. A., SLEPTSOV, I.YE., SIZOV, V. V., KHRISTIANSEN, G. B., and SHAMSUTDINOVA, F. K.

"Preliminary Results of Recording Extensive Showers on a Recording Array in Yakutsk"

Moscow, Izvestiya Akademii Nauk SSSR, Seriya Fizicheskaya, Vol 35, No 10, Oct 71, pp 2098-2101

Abstract: Experiments are described in which attempts were made at determining the energy spectrum, composition, and anisotropy of cosmic rays within the range of energy 10^{17} to 10^{18} ev. It is desired to extend the range to cover 10^{19} ev and above. Of a particular interest are the following problems: do the rays originate within the Galaxy or in metagalactic regions, what is the direction from which they arrive, and how Cerenkov radiation produced by them is distributed within the atmosphere. The test equipment consists of 13 recording points distributed over an area of 3 km², with a central time-control point. The output spectrum was measured over a period of 29.5 hours. 82 showers were noted during that period, with the axes falling within the

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USSR

VERNOV, S. N., et al., Izvestiya Akademii Nauk SSSR, Seriya Fizicheskaya, Vol 35, No 10, Oct 71, pp 2098-2101

array area. The orientation of the axis was found by the "triangulation" method, comparing the time of arrival of the showers at different recording points. An analytic expression is given in the paper for the integral output spectrum of extensive showers at sea level for the interval of N between 2×10^7 and 2×10^8. The intensity, determined with this formula, appears to be 2 to 3 times as great as recorded elsewhere. Distribution of Cerenkov light with respect to the shower axis was determined by observations conducted on clear, moonless nights. It was found to be similar to that of the primary gamma quanta, but it decayed with the distance from the axis more slowly than the amount of charged particles ($R^{-2.5}$ as against $R^{-3.3}$ for charged particles).

Examination of the energy spectrum of primary particles lead to the conclusion that the electromagnetic component is responsible for 80% of it. Dependence of primary energy on the output N was established, and on the basis of this relation the integral spectrum was computed. The coefficient connecting these two magnitudes was found to be twice as high as the one previously accepted elsewhere.

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USSR

VERNOV, S. N., et al., Izvestiya Akademii Nauk SSSR, Seriya Fizicheskaya, Vol 35, No 10, Oct 71, pp 2098-2101

In the final analysis, variation of Čerenkov light at the primary particle energy of 3.6×10^{16} ev and the output (intensity) of 1.5×10^{7} particles at sea level is given, as well as the expected distribution of the nuclear components of primary rays.

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USSR UDC 621.383.292.8

AYNBUND, M. R., KOVALENKO, V. G., KOLOSOV, Yu. A., POLENOV, B. V.

"Multiplier With Continuous Dynode for Registration of Charged Particles"

Elektron. tekhnika. Nauchno-tekhn. sb. Elektronnoluch. i fotoelektr. pribory (Electronic Technology. Scientific-Technical Collection. Electron Beam and Photoelectric Devices), 1970, Issue 4(18), pp 47-51 (from RZh—Elektronika i yeye primeneniye, No 5, May 1971, Abstract No 5A193)

Translation: The principal parameters and characteristics are presented of channel electron multipliers of tubular type (spiral and curved) with an input window 1.5-mm in diameter, and of the slotted type with an input window 2 x 6 mm^2, studied in a counting regime of signal registration. Summary.

1/1

1/2 018 UNCLASSIFIED PROCESSING DATE--04DEC70

TITLE--PROCESSES OF CARBIDE FORMATION DURING THE DIFFUSION GAMMA YIELDS ALPHA TRANSFORMATION IN MOLYBDENUM STEELS -U-

AUTHOR-(03)-KOLOSOVA, E.L., GOLDSHTEYN, M.I., SUSLOPAROV, G.D.

COUNTRY OF INFO--USSR

SOURCE--FIZIKA METALLOV I METALLOVEDENIE, FEB. 1970, 29, (2), 349-357

DATE PUBLISHED----FEB70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--ALLOY PHASE TRANSFORMATION, CARBIDE PHASE, MOLYBDENUM STEEL, METAL DIFFUSION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3003/0338 STEP NO--UR/0126/70/029/002/0349/0357

CIRC ACCESSION NO--AP0129570

UNCLASSIFIED

2/2 018 UNCLASSIFIED PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0129570

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE PROCESS OF CARBIDE FORMATION ASSOCIATED WITH THE DIFFUSION TYPE GAMMA YIELDS ALPHA TRANSFORMATION IN STEELS CONTG. VARIOUS QUANTITITES OF MO WAS STUDIED. THE CARBIDE FORMATION STARTED IN THE SUPERCOOLED AUSTENITE EVEN BEFORE THE ONSET OF THE DIFFUSION TRANSFORMATION. THE GREATER PROPORTION OF THE CARBIDES PRECIPITATED DURING THE TRANSFORMATION FROM THE FERRITE FORMED IN THE COURSE OF THE LATTER. A LOW STABILITY CARBIDE OF THE (MO, FE) SUB23 C SUB6 TYPE WAS FORMED IN THE SUPERCOOLED AUSTENITE; AS THE TRANSFORMATION PROGRESSED, THE STABLER MO SUB2 C AND (MO, FE) SUB6 C DEVELOPED.

UNCLASSIFIED

1/2 021 UNCLASSIFIED PROCESSING DATE--04DEC70

TITLE--CARBIDE FORMATION PROCESSES IN NIOBIUM CONTAINING STEELS DURING A DIFFUSION CONTROLLED, GAMMA ALPHA TRANSFORMATION -U-

AUTHOR-(03)-GOLDSHTEYN, M.I., SUSLOPAROV, G.D., KOLOSOVA, E.L.

COUNTRY OF INFO--USSR

SOURCE--FIZIKA METALLOV I METALLOVEDENIE, VOL. 29, MAR. 1970, P. 625-631

DATE PUBLISHED----MAR70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--CARBIDE, NIOBIUM CONTAINING ALLOY, METAL BRITTLENESS, ALLOY DESIGNATION, MANGANESE STEEL, NIOBIUM STEEL, LOW ALLOY STEEL, ALLOY PHASE TRANSFORMATION, AUSTENITE, METAL FERRITE PHASE/(U)20G8 MANGANESE NIOBIUM STEEL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3001/0071 STEP NO--UR/0126/70/029/000/0625/0631

CIRC ACCESSION NO--AP0125906

UNCLASSIFIED

2/2 021 UNCLASSIFIED PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0125906

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. STUDY OF THE FORMATION OF NIOBIUM CARBIDES IN A HYPOEUTECTOID STEEL 20GB, CONTAINING 0.087PERCENT NB, DURING THE GAMMA ALPHA TRANSFORMATION. IT IS FOUND THAT THE FORMATION OF NIOBIUM CARBIDES PROCEEDS IN SEVERAL STAGES: (1) IMMEDIATELY IN THE SUPERCOOLED AUSTENITE, (2), IN THE PROEUTECTOID FERRITE, AND (3) IN THE EUTECTOID FERRITE. A RELATIONSHIP IS ESTABLISHED BETWEEN THE BRITTLENESS OF THIS STEEL AND THE DISTRIBUTION CHARACTERISTICS OF CARBIDE PARTICLES. FACILITY: URAL'SKII NAUCHNO-ISSLEDOVATEL'SKII INSTITUT CHERNOI METALLURGII, SVERDLOVSK, USSR.

UNCLASSIFIED

Acc. Nr.: AP0029499 Ref. Code: UR 0297

PRIMARY SOURCE: Antibiotiki, 1970, Vol 15, Nr 1, pp 25-28

A STUDY OF THE CHEMICAL COMPOSITION AND ANTITUMOR ACTIVITY OF PROTAMINES, ISOLATED FROM STURGEON MILT

Yermol'yeva, Z.V.; Silayev, A.B.; Yulikova, Ye.P.; Pokidova, N.V.; Pasternak, N.A.; Kolosova, I.V.; Yevseyenko, L.K.; Shenderovich, V.A.

Central Post Graduate Medical Institute, Moscow State University

Triprotamines in the form of sulfates were isolated from the milt of individual sturgeon stocks. The amino acid composition of triprotamines was determined and their antitumor activity was studied. It was shown that protamine from Ac. guldenstadti and Ac. stellatus inhibited tumor growth by 60—80 per cent, while protamine from Ac. nudiventris was practically inactive.

1/1

REEL/FRAME

19681100

USSR UDC 576.8.097.29:591.524.1

STROGANOV, N. S., KHOBOT'YEV, V. G., KOLOSOVA, L. V., KOCHKIN, D. A., and EL'KHANOV, G. E., Chair of Hydrobiology, Moscow State University imeni M. V. Lomonosov, Moscow

"The Toxic Action of Some Organometallic Compounds on Aquatic Life. II. The Action of Alkyl(aryl) Lead-Organic Compounds"

Moscow, Nauchnyye Doklady Vysshey Shkoly, Biologicheskiye Nauki, No 3, 1971, pp 21-24

Abstract: The action of the compounds Me_3PbCl (I), Me_2PbCl_2 (II), Et_3PbOH (III), and Ph_4Pb (IV) on the algae Scenedesmus quadricauda and Chlorella vulgaris and the crustacean Daphnia magna was studied. I, II, and III were more toxic towards the Daphnia than the algae, whereas IV was more toxic towards algae, exerting an algicidal effect even in a concentration of 0.01 mg/l, while producing no toxic action on the Daphnia in concentrations $\leq$ 8 mg/l. A compound with a selective action such as that of IV can be used for the control of aquatic life in industrial water reservoirs in cases in which the blooming of water must be suppressed, while it is desirable to preserve the propagation of the zooplankton. Water from reservoirs of this type is used neither for drinking nor for household purposes.

1/1

1/2 025 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--POLY, ETHYLENE OXIDE -U-

AUTHOR-(05)-CHERKANOV, S.P., TARNORUTSKIY, M.M., GREBENSHCHIKOVA, V.A., ALTERGOT, E.V., KOLOSOVA, N.B.

COUNTRY OF INFO--USSR

SOURCE--U.S.S.R. 264,691

REFERENCE--OTKRYTIYA, IZOBRET., PROM. OBRATZY, TOVARNYE ZNAKI, 1970 47(9).

DATE PUBLISHED--03MAR70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--POLYMER, ETHYLENE OXIDE, CHEMICAL PATENT, CATALYTIC POLYMERIZATION, ORGANOALUMINUM COMPOUND

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3007/0855 STEP NO--UR/0482/70/000/000/0000/0000

CIRC ACCESSION NO--AA0136289
UNCLASSIFIED

2/2 025 UNCLASSIFIED PROCESSING DATE--04DEC70
CIRC ACCESSION NO--AA0136289
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. POLY(ETHYLENE OXIDE) IS PREPD. BY POLYMN. OF ETHYLENE OXIDE IN A CATALYST SYSTEM CONSISTING OF AN ORGANOALUMINUM COMPOUND., A CHELATING AGENT, AND H SUB2O. TO INCREASE THE MOL. WT. OF THE POLYMER FORMED, DIETHYLENE DIOXIDE OR ITS DERIVS. ARE USED AS COCATALYSTS. FACILITY: NOVOSIBIRSKIY FILIAL NAUCHNO-ISSLEDOVATEL'SKOGO INSTITUTA POLIMERIZATSIONNYKH PLASTMASS.

UNCLASSIFIED

1/2 025 UNCLASSIFIED PROCESSING DATE--09OCT70

TITLE--THE ROLE OF GENOTYPICAL FACTORS IN THE ORIGINATION OF HEMORRHAGICAL STROKES -U-

AUTHOR-(03)-DAVIDENKOVA, YE.F., KOLOSOVA, N.N., MURAVYEVA, Z.M.

COUNTRY OF INFO--USSR

SOURCE--ZHURNAL NEVROPATOLOGII I PSIKHIATRII IMENI S. S. KORSAKOVA, 1970, VOL 70, NR 4, PP 506-511

DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--BRAIN, HEMORRHAGE, BLOOD COAGULATION, HYPERTENSION, ARTERY, ATHEROSCLEROSIS, ENDOCRINE SYSTEM DISEASE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1988/1662 STEP NO--UR/0246/70/070/004/0506/0511

CIRC ACCESSION NO--AP0106408

UNCLASSIFIED

2/2 025 UNCLASSIFIED PROCESSING DATE--09OCT70

CIRC ACCESSION NO--AP0106408

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE PRESENTATION IS RELATED TO CLINICO, GENEALOGICL AND BIOCHEMICAL DATA OF 83 PROBANDS WITH SUBARACHNOIDAL AND INTRABRAIN HEMORRHAGES AND 168 MEMBERS OF THEIR FAMILIES. ANALYZING THEIR PEDIGREE A DEMONSTRABLE WIDE DISTRIBUTION OF VASCULAR PATHOLOGY WAS EVIDENT IN THE FAMILIES OF PATIENTS WITH SUBARACHNOIDAL (24.3PERCENT) AS WELL AS WITH INTRACEREBRAL (21.7) HEMORRHAGES. A STUDY OF THE COAGULATIVE AND ANTICOAGULATIVE SYSTEMS, INCLUDING THE ENZYMATIC BLOOD ACTIVITY (FACTOR VII, FACTOR VIII) DEPICTED DISTINCT SIGNS OF HYPOCOAGULATION IN SOME OF THE PRACTICALLY NORMAL MEMBERS OF THE STUDIED FAMILIES. A TENDENCY TO CHANGED BLOOD COAGULATION PROPERTIES IN FAMILIES OF PATIENTS WITH HEMORRHAGES WAS ACCOMPANIED BY A HIGH FREQUENCY AND EARLY DEVELOPMENT IN THE FAMILIES OF PROBANDS OF HYPERTENSIVE DISEASES, ARTERIAL HYPOTENSION, ATHEROSCLEROSIS, AS WELL AS VEGETATIVE VASCULAR AND ENDOCRINOLOGICAL DISORDERS.

UNCLASSIFIED

1/2 008 UNCLASSIFIED PROCESSING DATE--27NOV70
TITLE--ZINC FLUORIDE -U-

AUTHOR-(03)-LOPATKINA, G.A., KOLOSOVA, T.N., SUSLOVA, O.S.

COUNTRY OF INFO--USSR

SOURCE--U.S.S.R. 265,091
REFERENCE--OTKRYTIYA, IZOBRET., PROM. OBRAZTSY, TOVARNYE ZNAKI 1970 47(10)
DATE PUBLISHED--09MAR70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--CHEMICAL PATENT, ZINC FLUORIDE, CHEMICAL PRODUCTION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3001/1466 STEP NO--UR/0482/70/000/000/0000/0000

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CIRC ACCESSION NO--AA0126997

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ZN FLUORIDE IS PREPD. FROM ZNO AND A IS GREATER THAN OF EQUAL TO 30PERCENT EXCESS OF FLUORIDE,BIFLUORIDE WITH HEATING UP TO 300DEGREES AT A RATE NOT EXCEEDING 1.2DEGRESS-MIN.

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